

WHAT IS CLAIMED IS:

1. A fingerprint reading device comprising:
- an active matrix liquid crystal cell;
 - illumination to emit a light from a rear surface side of the active matrix liquid crystal cell;
 - a light guiding plate, provided on a surface side of the active matrix liquid crystal cell, to transmit the light from the rear surface side and deflect the light from the surface the toward one side end surface;
 - light receiver, provided on the side of one side surface of the light guiding plate, to receive the light exiting from this one side surface; and
 - a drive circuit to make the active matrix liquid crystal cell pinpoint-irradiate a fingerprint in contact with the light guiding plate by pinpointing with the light emitted from the illumination and making the light receiving means pinpoint-receive the light reflected by the fingerprint, and thereby obtaining an image of the fingerprint.
2. A fingerprint reading device according to claim 1, wherein the active matrix liquid crystal cell serves also as a liquid crystal cell of a liquid crystal display device.
3. A fingerprint reading device according to claim 1, wherein

the active matrix liquid crystal cell is provided in superposition on at least a part of the liquid crystal cell of the liquid crystal display device.

AI
com'1
4. A fingerprint reading device according to any one of claim 1, wherein the light receiver is a line sensor provided along the one side end surface of the light guiding plate.

09634243-030800
5. A fingerprint reading device according to any one of claims 1, wherein the light receiver is constructed of a light receiving element and a lens or a lens array for converging on the light receiving element the light exiting from the one side end surface of the light guiding plate.

6. A fingerprint reading method comprising the steps of:
providing an active matrix liquid crystal cell;
providing illuminating means for emitting the light from a rear surface side of the active matrix liquid crystal cell;
providing a light guiding plate on a surface side of the active matrix liquid crystal cell, which transmits the light coming from the rear surface side and deflects the light coming from the surface side toward one side end surface;

selectively pinpoint-irradiating a fingerprint touching on the surface of the light guiding plate through the active matrix

liquid cell with the light coming from a rear surface side of the active matrix liquid crystal cell;

receiving the light reflected by the fingerprint and exiting from one side end surface of the light guiding plate; and

thus obtaining an image of the fingerprint.

add
A2

008080" E424E960